

## **Quantum Metrology using Light-matter Quantum Interfaces**

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Quantum Metrology uses entanglement and other quantum resources to improve the sensitivity of interferometric measurements. Strongly-interacting light-matter systems, or "quantum interfaces," offer several routes to improved sensitivity, including quantum non-demolition measurements, squeezing-enhanced optical readout of atomic sensors, and interaction-based measurements. I will describe recent experimental work in this area using rubidium-resonant quantum states of light and cold rubidium atomic ensembles.